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ABSTRACT

Project sustainability is a major concern in development practice, as many donor-funded projects struggle to sustain their benefits beyond the period of external funding. Growing evidence suggests that stakeholder involvement plays a vital role in promoting sustainability through enhanced ownership, accountability, and collective responsibility for project outcomes. However, empirical evidence regarding the influence of stakeholder involvement on the sustainability of donor-funded climate adaptation projects in developing-country contexts remains limited, fragmented, and inconclusive. This study sought to determine the effect of stakeholder involvement on the sustainability of donor-funded water projects implemented under the Kenya Adaptation Fund Programme in Kajiado County, Kenya. The study adopted a descriptive survey design targeting 112 respondents comprising 12 NEMA staff and 100 beneficiary households from three Kenya Adaptation Fund water projects in Kajiado County, Kenya. A census approach was employed, and data were collected using researcher-administered questionnaires and guided interviews. Quantitative data were analyzed using descriptive statistics, correlation, and regression analysis in SPSS Version 28, while qualitative data were analyzed thematically. The findings revealed a high level of stakeholder involvement in project implementation and governance. Correlation analysis showed a strong positive and statistically significant relationship between stakeholder involvement and project sustainability ($r = 0.769$, $p < 0.01$). Regression analysis further established that stakeholder involvement significantly influenced project sustainability ($\beta = 0.432$, $B = 0.415$, $t = 4.462$, $p < 0.001$), indicating that increased stakeholder participation enhances sustainability outcomes. Qualitative findings corroborated the quantitative results by demonstrating that inclusive stakeholder engagement in project planning and decision-making fostered community ownership, accountability, and long-term commitment to project benefits. The study concludes that stakeholder involvement is a critical determinant of the sustainability of donor-funded water projects, as it strengthens community ownership, accountability, and commitment to maintaining project benefits beyond donor support. The study recommends that development agencies and

project implementers institutionalize stakeholder participation throughout the project lifecycle, including post-implementation monitoring and evaluation, to enhance long-term sustainability outcomes.

Keywords: *Stakeholder Involvement; Project Sustainability; Donor-Funded Projects; Community Participation.*

1. INTRODUCTION

Background

Project sustainability remains a central objective of development interventions. In the context of project management, sustainability depicts the extent to which project benefits, services, and outcomes continue to be realized by beneficiary communities beyond the period of external support and funding (Carmen et al. 2022; Walukano & Wanyonyi, 2024). According to Dushkova and Ivlieva (2024), sustainability involves the ability of a project to continue delivering its intended benefits to beneficiaries over the long term, particularly after external financial or technical support has ended. The current emphasis has shifted toward ensuring that such projects remain sustainable and continue delivering long-term benefits to their intended beneficiaries (AfDB, 2022). Despite the global decline in development assistance by 7.1% in 2024 (Mapfumo et al., 2024), development needs in climate adaptation, water access, and food security continue to increase, making sustainability of existing projects more critical than ever before. While external support for development projects has remained a reality in the modern world, project sustainability has continued to raise concerns given that 60% of donor-funded projects aimed at improving rural livelihoods collapsed within three years (Rahman, 2018).

Capacity building plays a critical role in determining sustainability because local communities are expected to assume responsibility for the management, maintenance, and financing of project activities once donor support is withdrawn. On the other hand, poor stakeholder engagement and lack of capacity-building efforts among local farmers led to the collapse of these projects (Gebremedhin, 2020). Research in community development has shown that capacity building contributes directly to community engagement and project continuity by enhancing stakeholder involvement, promoting local decision-making, and facilitating the transfer of technical and managerial expertise (Mwangi & Mutuku, 2025; Komujuni et al., 2013). Sustainable projects therefore depend on the ability of community members to mobilize resources, maintain infrastructure, exercise effective leadership, and participate in collective decision-making processes that support continued project operation and impact (Ceptureanu et al., 2018). Emerging evidence from Kenya further demonstrates the importance of community participation in sustaining donor-funded initiatives (Walukano & Wanyonyi, 2024). A recent study in Tharaka South Sub-County established that projects characterized by active community involvement during implementation and monitoring exhibited higher sustainability levels than projects where beneficiaries played a passive role (Mwende et al., 2025). Scholarly literature recommends continuous empowerment of communities through training and participation to ensure continuity of project benefits beyond donor support.

Moreover, capacity building enables community members to address managerial challenges, resolve technical problems, and mobilize financial resources necessary for continued project

operation (Indeje, 2023). Systematic capacity-building initiatives enable communities to develop the skills and competencies necessary to enhance project ownership, strengthen accountability mechanisms, and improve adaptability in the design and implementation of development interventions. By investing in technical training, financial planning and management skills, communities are better equipped to sustain interventions once external support ends. More importantly, communities are able to expand or replicate successful activities, thereby fostering long-term development outcomes (Mwangi & Mutuku, 2025; Sakanga et al., 2019).

One of the key capacity-building dimensions that influence sustainability of projects is stakeholder involvement. Stakeholder involvement entails the systematic identification, analysis, and active engagement of individuals, groups, and organizations affected by or interested in a project throughout its lifecycle (Silvius & Schipper, 2019). Effective engagement enhances project acceptance, adaptability, transparency, trust, decision-making, and long-term sustainability while reducing resistance and conflict during implementation. According to Freeman (2023), stakeholders include both internal and external actors such as beneficiaries, government agencies, donors, contractors, and civil society organizations whose participation strengthens accountability and local ownership (Freeman, 2023; UNDP, 2022). PMI (2017) emphasizes that structured stakeholder analysis helps manage expectations and risks, while Bobae (2024) highlights its role in fostering collaboration and commitment. Empirical evidence further shows that inclusive stakeholder participation improves project performance, ownership, resilience, and sustainability outcomes (Amuni et al., 2025)

Kajiado County has seen implementation of many donor-funded projects but sustainability continues to be a challenge. Many infrastructure projects that were funded by various donors have been abandoned due to lack of local community capacity to ensure the sustainability of the projects. The projects done under Kenya Adaptation Fund Program in the county stand out in that they have been operational even after the withdrawal of donor funding. This study explored how stakeholder involvement, technical training and financial literacy training have contributed to the sustainability of these projects.

Problem

Despite the growth of global development assistance from US\$38 billion in 1960 to US\$212.1 billion in 2024, donor-funded projects continue to face significant sustainability challenges, with aid declining by 7.1% in real terms compared to 2023 (OECD, 2024). While these investments support critical sectors such as water, climate adaptation, health, and food security, many projects fail to deliver long-term benefits after donor withdrawal due to weak community ownership and inadequate institutional capacity (Global Fund, 2025; NEMA, 2020). Evidence from Sub-Saharan Africa indicates that 65% of donor-funded projects remain incomplete and fail to satisfy stakeholder expectations (Mzee, 2024), while the Standish Group reported an overall project success rate of only 36% (Kimanthi, 2021). Among the key drivers of these failures is inadequate stakeholder involvement, which undermines community ownership, accountability, and commitment to project continuity (Musyoki et al., 2021; Gebremedhin, 2020; Mzee, 2024; Opiyo & Ng'eno, 2024). In Kajiado County, where residents travel 5–15 km to access potable water against the WHO standard of 1 km, many water projects have been abandoned (Mutuma, 2022).

However, Kenya Adaptation Fund water projects remain operational after donor exit, raising important questions about the role of stakeholder involvement in enhancing project sustainability.

Aim

The study assessed the effect of stakeholder involvement on project sustainability of Kenya Adaptation Fund Projects in Kajiado County.

Significance

This study contributes to the growing body of knowledge on project sustainability by providing empirical evidence on the role of stakeholder involvement in sustaining donor-funded community projects. The findings offer practical insights to development partners, government agencies, and project managers on how inclusive stakeholder engagement can enhance ownership, accountability, and the long-term continuity of project benefits. Additionally, the study provides a useful reference for scholars and practitioners seeking to design and implement sustainable development interventions in resource-constrained communities.

2. LITERATURE REVIEW

Theoretical Literature Review

The theoretical underpinning of this study is the stakeholder theory. Stakeholder Theory, originally formulated by Freeman (1984), posits that organizations that effectively manage relationships with all relevant stakeholders, rather than focusing solely on shareholders, achieve better long-term performance, resilience, and legitimacy. In its foundational form, Freeman (1984) argued that firms attending to the interests of employees, customers, suppliers, regulators, and local communities are more likely to endure and perform effectively than those that neglect these relationships. In project management, the theory suggests that for projects to achieve sustainability, all stakeholders involved in planning, execution, and operation must participate meaningfully. Excluding or marginalizing key groups can compromise ownership, accountability, and the continuity of project benefits.

In development contexts, Stakeholder Theory has been widely used to examine how the alignment of interests among diverse stakeholders contributes to project success and sustainability outcomes (Freeman et al., 2010). The theory emphasizes inclusive decision-making processes that integrate multiple perspectives, fostering transparency, legitimacy, and stakeholder commitment. Engaging stakeholders throughout the project life cycle has been shown to enhance participation, reduce resistance, and improve the likelihood that project outcomes are maintained beyond donor support (Freeman et al., 2010).

Despite its utility, Stakeholder Theory has faced criticism. Scholars have argued that it is often too broad and abstract, offering limited guidance on prioritizing or balancing competing stakeholder interests (Miles, 2017; Mitchell et al., 1997). The lack of a clear hierarchy among stakeholders can lead to decision-making challenges, conflicts, or managerial inefficiency, particularly in resource-constrained environments. Aaltonen & Kujala (2016) and Miles (2017) argue that identifying,

engaging, and monitoring all relevant stakeholders is resource-intensive and contextually challenging

Moreover, the broad scope of the theory may dilute managerial focus, making it difficult to maintain strategic coherence while attending to diverse stakeholder claims. Finally, some scholars note that without clear metrics for assessing stakeholder contributions or outcomes, engagement can become symbolic rather than substantive, limiting its impact on project sustainability (Greenwood, 2007). Nevertheless, the theory provides a valuable conceptual understanding the significance of inclusive engagement in sustainable development projects. Its emphasis on integrating the interests of multiple actors supports the argument that stakeholder involvement in Adaptation Fund-funded projects in Kajiado County likely contributed to their sustainability by fostering participatory processes, enhancing accountability, and embedding local priorities into project outcomes.

Empirical Literature Review

Cvijović et al. (2021) in their paper titled Stakeholder Management and Project Sustainability—A Throw of the Dice, assessed the role of participation of stakeholders on the sustainability of a Serbian small hydro power plant project. In the study they focused on projects where external stakeholders were ignored by developers but were incentivized to intervene due to environmental concerns. They utilized a qualitative case study approach. The study found that the pressure exerted by these stakeholders forced a change in the approach of decision-makers and investors, leading to improved, more sustainable practices. The study concluded that proactive stakeholder participation is the essence of sustainable project management and crucial for long-term project success. This study focused on how lack of stakeholder involvement had led to unsustainable practices. The focus of this study will be on how stakeholder involvement led to the sustainability of Adaptation Fund, funded projects in Kajiado county.

In Uganda, a study Lalam (2019) queried the relationship Stakeholder Engagement, Community Participation, Stakeholder Commitment and Project Sustainability of rural water projects in Uganda. In her research, she employed cross-sectional, quantitative survey in examining 50 rural water projects across seven sub-counties in Jinja District. Lalam (2019) found that there is a positive and significant relationship between stakeholder engagement and community participation, stakeholder engagement and stakeholder commitment, community participation and stakeholder commitment, stakeholder commitment and sustainability of rural water projects, community participation and sustainability of rural water projects, stakeholder engagement and sustainability of water projects. In his study Lalam (2019) recommended that before implementation of any community-based project, there should be high level of stakeholder engagement and the practices of stakeholder identification, analysis and engagement should be taken as an essential process of the project performance.

Another study by Mzee (2024) used descriptive and explanatory research designs to identify the key factors influencing the development of projects in Homabay County. Mzee (2024) focused on 15 projects in Homabay County funded by various donors, comprising of 4 infrastructural projects, 2 educational projects, 4 social projects, 2 health projects, and 3 agricultural projects. Mzee (2024) found that participation of stakeholders positively impacted the execution of projects financed by donors in Homabay County, Kenya. Donors had been providing regular, important, and timely

updates to stakeholders on the progress of the project. Stakeholders' involvement increased transparency and accountability, and an analysis of stakeholders was conducted in the project planning phase to ensure all relevant parties were included.

Conceptual Framework



3. METHODOLOGY

Research Design

A descriptive research design was employed in this study. Descriptive design offers a systematic method aimed at accurately portraying the characteristics of a population, phenomenon, or situation without manipulating variables (Creswell & Creswell, 2018). This design is particularly useful in answering the “who, what, when, where, and how” questions associated with a specific research problem (Saunders et al, 2019). It is suitable for the current study because it allows the researcher to collect data on individuals’ attitudes, perceptions, behaviors, and values in their natural settings (Kumar, 2019).

Population and Sampling

The study targeted 112 respondents comprising 12 NEMA staff and 100 beneficiary households drawn from three Kenya Adaptation Fund borehole projects in Kajiado County, distributed as shown in Table 1.

Table 1: Target population

Category	Frequency
NEMA staff	12
Beneficiary households	
Eldonyo Enker borehole	37
Olorurunga Borehole	23
Lemongo Borehole	40
Total	112

A census approach was adopted because the population was small, manageable, and possessed critical information regarding project implementation and sustainability. Consequently, all 112 respondents were included in the study, with one representative selected from each household and all NEMA staff involved in the Project Management Office participating in the data collection process.

Data Collection and Analysis

The study used questionnaires and interviews to collect primary data. The questionnaire was divided in two sections. The question had structured items only. Structured questions are advantageous as they save time and resources while facilitating straightforward analysis in a readily usable format (Kothari, 2004). Interviews were guided by a structured interview schedule, ensuring respondents remain focused on the themes under consideration while allowing for comprehensive exploration of the subject.

Prior to the main study, a pilot test involving 12 respondents (2 NEMA staff and 10 beneficiaries from similar water projects in Laikipia County) was conducted to assess the clarity, validity, and reliability of the research instruments. Content validity was established through expert review, while construct validity was confirmed using KMO values ranging from 0.801 to 0.839 and significant Bartlett's Test results ($\chi^2 = 276.42-318.46$, $p < 0.001$), indicating that the data were suitable for factor analysis. Reliability was assessed using Cronbach's alpha, with all study variables exceeding the acceptable threshold of 0.7, including stakeholder involvement (0.872), technical training (0.788), financial literacy training (0.819), and project sustainability (0.824), confirming the instrument's reliability.

The main study involved collecting both quantitative and qualitative data from 112 respondents using researcher-administered questionnaires and guided interviews over a four-week period, with research assistants supporting illiterate participants and all respondents being assured of confidentiality through MUA and NACOSTI authorization documents. Quantitative data were coded and analyzed using SPSS Version 28 and Microsoft Excel to generate descriptive statistics and multiple regression results, while qualitative data were analyzed through thematic analysis to identify recurring patterns and themes.

Research Ethics

Ethical principles of informed consent, voluntary participation, confidentiality, privacy, and anonymity were strictly observed throughout the study to safeguard participants' rights and the integrity of the research process.

4. FINDINGS

Response Rate and Reliability

The study targeted 112 respondents. The process involved preparing and administering a total of 100 closed-ended questionnaires. It also intended to interview a total of 12 staff working at PMO at NEMA. However, only 88 questionnaires and nine interviews were conducted by the end of the data collection period, as detailed in Table 2.

Table 2. Response rate

Targeted sample size	100	12
Number of respondents reached	88	9
Response rate	88%	75%

The results indicate that the response rates were 88% for questionnaires and 75% for interviews. (Mugenda and Mugenda 2019) recommended that a response rate of more than 70% is adequate to proceed to data analysis. Given the response rate above, the researcher proceeded to the analysis of the collected data. In addition to the response rate, it was necessary to analyze the reliability statistics. The reliability statistics showed that the variable ‘stakeholder involvement’ scored a Cronbach’s alpha value of 0.821 (greater than 0.7), indicating that it met the reliability requirement. According to Cronbach (1951), instruments with alpha values of 0.70 and above are considered reliable for research purposes.

Demographic Characteristics

Computing demographic statistics was necessary to provide essential background information about the respondents, enabling a better understanding of the sample composition and its relevance to the study objectives. The demographic statistics that the study computed included gender, age, highest level of education, and years of experience with the current project.

Table 3: Demographic characteristics

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	49	55.7
	Female	39	44.3
Age (Years)	18–24	18	20.5
	25–34	17	19.3
	35–44	33	37.5
	45–54	20	22.7
	55–64	12	13.9
Education Level	Primary	44	50.0
	Secondary	24	27.3
	Diploma	20	22.7
Years of Experience	1–2 Years	11	12.5
	3–5 Years	63	71.6
	Above 5 Years	14	15.9

The demographic findings indicate that the study achieved a relatively balanced gender representation, with males constituting 55.7% and females 44.3% of the respondents. Most participants were aged between 35 and 44 years (37.5%), suggesting that the study largely captured views from mature individuals with substantial experience and understanding of project operations. Regarding educational attainment, half of the respondents (50.0%) had primary-level education, while 27.3% and 22.7% had secondary and diploma qualifications, respectively, indicating a population with basic to moderate educational backgrounds. Additionally, the majority

of respondents (71.6%) had been involved in the projects for between three and five years, demonstrating considerable exposure to project activities and enhancing the credibility of their perceptions regarding stakeholder involvement and project sustainability.

Descriptive Analysis

Descriptive analysis involved computing the mean and standard deviation of the responses based on the five-point Likert scale. During the analysis, the means and standard deviations were used to interpret the findings where a mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree.

Descriptive analysis for Stakeholder Involvement

Descriptive analysis for stakeholder involvement was conducted, covering the percentages of responses for each Likert scale statement, frequencies, mean and standard deviations (SD). The results were detailed in Table 4.

Table 4: Descriptive analysis for stakeholder involvement

Statement	1	2	3	4	5	Mean	SD
Stakeholders were actively engaged in project decision-making from the beginning.	8% (7)	5.7% (5)	17% (15)	30.7% (27)	38.6% (34)	3.8636	1.22410
Community members were given authority to participate in project implementation.	1.1% (1)	13.6% (12)	9/1% (8)	20.5% (18)	55.7% (49)	4.1591	1.13347
Regular assessments of community needs were conducted during the project.	-	14.8% (13)	10.2% (9)	31.8% (28)	43.2% (38)	4.0341	1.06619
Stakeholders were regularly informed of key project milestones.	3.4% (3)	5.7% (5)	11.4% (10)	33.0% (29)	46.6% (41)	4.1364	1.05244
Overall mean and standard deviation						4.0483	1.11905

The results in Table 5 show that a majority of respondents agreed or strongly agreed with most statements on stakeholder involvement. Specifically, 38.6% (n = 34) strongly agreed and 30.7% (n = 27) agreed that stakeholders were actively engaged in project decision-making from the beginning (M = 3.86, SD = 1.22). Over half of the respondents, 55.7% (n = 49), strongly agreed and 20.5% (n = 18) agreed that community members were given authority to participate in project implementation (M = 4.16, SD = 1.13). Similarly, 43.2% (n = 38) strongly agreed and 31.8% (n = 28) agreed that regular assessments of community needs were conducted during the project (M = 4.03, SD = 1.07). Additionally, 46.6% (n = 41) strongly agreed and 33.0% (n = 29) agreed that stakeholders were regularly informed of key project milestones (M = 4.14, SD = 1.05).

The aggregate mean of 4.05 and SD of 1.12 indicate that respondents agreed that stakeholder involvement was effectively implemented in the Kenya Adaptation Fund projects. Since the SD

values were below 2, it implies low variability, showing that respondents held similar views across the items. These findings suggest strong and inclusive participation, aligning with Freeman’s (2023) Stakeholder Theory, which emphasizes that active engagement fosters project ownership and long-term success. Similarly, Bobae (2024) noted that effective stakeholder involvement enhances collaboration and sustainability.

Descriptive analysis for Project Sustainability

Descriptive analysis for sustainability of projects was conducted, covering the percentages of responses for each Likert scale statement, frequencies, mean and standard deviations (SD). The results were detailed in Table 8.

Table 1: Descriptive analysis for sustainability of projects

Statement	1	2	3	4	5	Mean	SD
The benefits of the project continue to be experienced after donor funding stopped.	1.1% (1)	4.5% (4)	6.8% (6)	18.2% (16)	69.3% (61)	4.5000	.89699
There is strong ownership of the project by community members and local institutions.	4.5% (4)	2.3% (2)	5.7% (5)	21.6% (19)	65.9% (58)	4.4205	1.02522
Local resources are available and are used for maintaining the project infrastructure.	9.1% (8)	5.7% (5)	2.3% (2)	15.9% (14)	67.0% (59)	4.2614	1.29982
Overall mean and standard deviation						4.3940	1.07401

The findings in Table 8, reveal that most respondents, 69.3% (n = 61), strongly agreed and 18.2% (n = 16) agreed that the benefits of the project continue to be experienced after donor funding stopped (M = 4.50, SD = 0.90). Similarly, 65.9% (n = 58) strongly agreed and 21.6% (n = 19) agreed that there is strong ownership of the project by community members and local institutions (M = 4.42, SD = 1.03). Moreover, 67.0% (n = 59) strongly agreed and 15.9% (n = 14) agreed that local resources are available and used to maintain project infrastructure (M = 4.26, SD = 1.30).

The aggregate mean of 4.39 and SD of 1.07 indicate that respondents agreed to strongly agreed that the projects were sustainable. Since all SD values were below 2, it implies low variability, meaning respondents held consistent opinions across all items. These results suggest that the Kenya Adaptation Fund projects have maintained continuity and community ownership beyond donor withdrawal. This supports Indeje (2023), who emphasized that sustainability is enhanced when communities possess the managerial and technical capacity to operate independently. It also aligns with USAID (2021) and World Bank (2015), which highlight that project ownership, availability of local resources, and community-led maintenance are critical determinants of long-term sustainability.

Inferential Analysis

Correlation analysis revealed a strong and positive association between stakeholder involvement and sustainability of projects.

Table 6: Correlation analysis

Pearson Correlation	.769**
Sig. (2-tailed)	.000
N	88
*. Correlation is significant at the 0.05 level (2-tailed).	
**. Correlation is significant at the 0.01 level (2-tailed).	

The correlation results show that stakeholder involvement had a strong positive and statistically significant relationship with project sustainability ($r = 0.769$, $p < 0.01$). This implies that a unit increase in stakeholder involvement is associated with a strong increase in project sustainability, such that a unit change in the stakeholder involvement could cause a 0.769 positive change in sustainability of projects. The correlation is significant at the 0.01 significance level. The finding suggests that projects that effectively engage stakeholders in decision-making, needs assessment, and monitoring tend to achieve higher levels of sustainability. This result supports Freeman’s (2023) Stakeholder Theory, which posits that active participation of all stakeholders enhances ownership, accountability, and long-term success of projects. It also aligns with Boba (2024) and Lalam (2019), who found that meaningful stakeholder engagement contributes significantly to sustainable outcomes of community-based and donor-funded projects.

Regression analysis revealed that stakeholder involvement has a statistically significant effect on sustainability of projects.

Table 6: Regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.282	.427		5.346	.000
Stakeholder Involvement	.415	.093	.432	4.462	.000

a. Dependent Variable: Sustainability of Projects

Using the beta coefficients, a multiple regression model was generated in the form:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Fitting the unknowns from the table, the model becomes:

$$Y = 2.282 + 0.415 X_1 + \varepsilon$$

The model can be used to predict changes in the dependent variable (Y) when a change occurs in any of the independent variables.

The constant value of 2.282 with a significance level of $p = 0.000$ indicates that when stakeholder involvement, technical training, and financial literacy training are all held constant at zero, the sustainability of projects would remain at a baseline score of 2.282. This suggests that even without the influence of the study's independent variables, some degree of sustainability exists, possibly due to other contextual factors such as institutional frameworks, community motivation, or external support mechanisms.

The regression results show that stakeholder involvement had an unstandardized coefficient (B) of 0.415, a standardized beta of 0.432, and a significance level of $p = 0.000$, indicating a strong and statistically significant positive influence on project sustainability. This means that a one-unit increase in stakeholder involvement leads to a 0.415-unit increase in the sustainability of projects, holding other variables constant. The finding implies that active participation of stakeholders in decision-making, implementation, and monitoring processes enhances project ownership, accountability, and long-term success.

These results align closely with Elinor Ostrom's Theory, which argues that when local communities are empowered to manage shared resources through inclusive decision-making structures, the sustainability of those resources improves. The finding also supports Freeman's (1984, 2023) Stakeholder Theory, which maintains that effective engagement of all stakeholders, rather than focusing solely on financiers or implementers, leads to stronger and more sustainable outcomes. Empirically, this result is consistent with Lalam (2019), who found that stakeholder engagement had the greatest influence on the sustainability of rural water projects in Uganda, and with Mzee (2024), whose study in Homabay County, Kenya, showed that active stakeholder participation improved transparency and accountability in donor-funded projects.

Similarly, Cvijović et al. (2021) confirmed that stakeholder inclusion helped resolve environmental and operational challenges, promoting sustainability in Serbia's hydro projects. Therefore, the study's results reinforce the view that empowering stakeholders to contribute meaningfully to project governance fosters shared responsibility and collective ownership, key determinants of sustainability as outlined in both Ostrom's institutional principles and Freeman's stakeholder framework.

Analysis of qualitative data also depicted the instrumentality of stakeholder involvement in project sustainability. The theme, 'inclusive stakeholder engagement and local participation', emerged from the respondents' expressions regarding the active involvement of community members, local leaders, and institutions in the design, planning, and implementation of projects. It emphasizes participatory decision-making that enhances transparency, accountability, and ownership among beneficiaries.

The interviews revealed that stakeholder engagement was a central feature of the Kenya Adaptation Fund projects, especially during the conceptualization and development stages. Most respondents noted that the communities were involved through public meetings, local barazas, and consultations with water committees.

The communities were part of the discussions from the start. We held public meetings where locals identified water needs and helped choose the borehole sites” (Respondent 2).

It was evident from the interviews that the experts worked with local leaders, water committees, and residents from the start in which their feedback guided site selection and project layout (Respondent 7). The responses underscore the participatory nature of project implementation, aligning with Freeman’s (1984) stakeholder theory, which emphasizes the inclusion of all relevant actors to achieve sustainable outcomes. The theory maintains that stakeholder engagement enhances legitimacy and trust, key ingredients for long-term sustainability. The practical approach observed in the Adaptation Fund projects reflects this principle, as communities were not passive recipients but active contributors to project design.

Similarly, Lalam (2019) found that stakeholder engagement significantly influenced the sustainability of rural water projects in Uganda. At the same time, Mzee (2024) noted that stakeholder participation increased accountability and transparency in donor-funded projects in Homabay County. The current study corroborates these insights, as community input was instrumental in identifying local needs and ensuring that the borehole projects met the realities of the environment.

However, while participation was strong during planning, it appeared less structured in post-implementation monitoring. Some respondents acknowledged limited follow-up engagement, with one stating that monitoring is minimal now and that the participants rely on local committees to report issues” (Respondent 2). This indicates a partial gap between initial engagement and ongoing participation, suggesting that the participatory momentum wanes after project completion.

From the perspective of Elinor Ostrom’s Theory, the participatory design of the projects likely contributed to the sense of shared responsibility observed among communities. Ostrom (1990) emphasized that sustainable management of common-pool resources is more effective when communities are directly involved in governance. In this context, early inclusion cultivated a foundation for community stewardship, even when external support diminished.

5. CONCLUSIONS

The study findings revealed that stakeholder involvement was strongly and positively associated with project sustainability. Descriptive statistics showed high agreement among respondents, with an aggregate mean of 4.05 and a standard deviation of 1.12, indicating consensus that stakeholders were actively engaged in project decision-making, implementation, and monitoring. Correlation analysis confirmed a strong positive and significant relationship ($r = 0.769$, $p < 0.01$) between stakeholder involvement and sustainability, suggesting that increased participation enhanced long-term project outcomes. Regression analysis further supported this, with an unstandardized coefficient ($B = 0.415$), $\beta = 0.432$, and $p = 0.000$, implying that a one-unit increase in stakeholder involvement led to measurable improvement in sustainability outcomes.

These findings align with Freeman’s (1984) Stakeholder Theory, which posits that inclusive participation fosters accountability and collective ownership, leading to effective project implementation. Similarly, Elinor Ostrom’s (1990) Theory emphasizes that when communities are

involved in governance, the management of shared resources improves. Empirical studies by (Lalam, 2019) and (Mzee, 2024) also observed that strong stakeholder participation enhances the effectiveness and longevity of donor-funded projects. Overall, the results affirm that stakeholder engagement is a fundamental factor influencing project success and continuity through shared decision-making and local commitment.

The study findings though supported by theoretical, conceptual and empirical evidence, show that community capacity building played a role in ensuring project sustainability of Kenya adaptation fund program projects in Kajiado County. Stakeholder involvement plays a decisive role in enhancing project effectiveness and continuity. Active participation in planning, implementation, and monitoring ensures shared decision-making, transparency, and accountability. When communities are meaningfully engaged, they develop a sense of ownership that promotes long-term commitment and responsible resource management. Consistent engagement across all project phases strengthens collaboration among beneficiaries and implementers, creating an enabling environment for sustainable outcomes. Stakeholder inclusion fosters trust, strengthens local capacity for self-governance, and ensures that projects remain relevant and responsive to community needs even after external support has ended.

6. RECOMMENDATIONS

Project implementers should institutionalize continuous stakeholder engagement throughout all project phases. This can be achieved through structured consultation forums, participatory planning, and feedback mechanisms. Empowering communities to take part in decision-making and monitoring will strengthen ownership, accountability, and transparency, ensuring long-term project sustainability and community-driven maintenance.

7. SUGGESTIONS FOR FUTURE RESEARCH

Studies could incorporate variables such as institutional support, leadership effectiveness, and community governance structures to improve explanatory power. Longitudinal research is recommended to assess sustainability trends over time and capture the long-term impact of stakeholder participation, training, and financial literacy. Expanding the scope to include multiple counties or sectors would enhance generalizability. Moreover, mixed-method designs with larger qualitative samples could provide deeper insights into the contextual and behavioral dimensions influencing sustainable project outcomes

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